

surface of said discharge port when said valving rod is in said closed position to facilitate the removal of at least a portion of any fluid product or derivatives thereof that may be in adherence with said interior surface of said discharge port;

and

c. one or more devices for sealing the plies of plastic film together to complete the partially-formed container, thereby enclosing the fluid product therein.

Please cancel claims 3 and 12.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. Such attachment is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

REMARKS

Claim Rejections – 35 USC §§ 102 and 103 based on Sperry '848

Claims 1-6, 8, and 9 stand rejected under 35 USC §102(b) as being anticipated by Sperry '848 (U.S. Pat. No. 5,996,848).

In the Office Action, the mixing chamber defining member 218 disclosed in Sperry '848 is analogized to the claimed "valving rod," with passageway 230 being compared with the claimed "central bore," passageway 256 being compared with the claimed "at least one inlet for receiving a cleaning solvent," and chemical injection ports 234 and 236 being compared with the claimed "one or more outlet ports." Further, the claimed "housing" is said to read on the disclosed main body 148 while the claimed "discharge port" in the housing is said to read on the disclosed opening 153 in the main body.

According to Sperry '848, mixing chamber defining member 218 moves between

- a non-dispensing position, in which chemical injection ports 234 and 236 are positioned above the corresponding chemical internal passageways 176 and 178 (col. 31, lines 3-27; FIG. 24), and
- a dispensing position, in which chemical injection ports 234 and 236 become aligned with internal passageways 176 and 178 to allow precursor (fluid product) chemicals A and B to flow through the dispenser (col. 33, lines 29-47; FIG. 26).

When in the non-dispensing position, solvent flows through solvent passageway 256 into non-interference fit area 318 between purge rod 270 and wall 320 of passageway 230 in mixing chamber defining member 218 (col. 36, lines 56-62; FIG. 28). From area 318, the solvent flows down along purge rod 270, whereupon it flows outwardly through chemical injection ports 234 and 236, then downwardly out of the opening 153 of the main body or housing 148 and along the tip section 226 of the mixing chamber defining member 218 (col. 37, lines 10-49; FIG. 28).

As shown in FIG. 28 and described at col. 31, lines 25-27, when the mixing chamber defining member 218 is in the non-dispensing position, chemical injection ports 234 and 236 are positioned above the corresponding chemical internal passageways 176 and 178, and are therefore also positioned well above the opening 153 at the discharge end of main body 148. Solvent thus contacts the opening 153 by flowing downwards out of the chemical injection ports 234 and 236 (col. 37, lines 26-45). This is made possible due to the non-interference fit between the mixing chamber defining member 218 and the main body 148 (col. 37, lines 39-44).

In contrast, the dispenser of the present invention employs a tight fit between the valving rod and internal chamber to reduce the likelihood that fluid product will leak from the internal chamber and also to substantially block solvent from flowing out of the outlet ports when the valving rod is in the open/dispensing position (see, e.g., page 15, lines 16-27 and page 21, line 29 through page 22, line 4). Advantageously, such a construction results in far less solvent usage than the earlier Sperry '848 dispenser, and also produces a rather isolated and specific area for foam build-up. As explained in the specification at the paragraph bridging pages 23-24, the present inventors have

determined that the most problematic part of dispenser 24 for foam build-up and occlusion is the discharge port 66 and, specifically, the interior surface 59 thereof, which also defines part of the internal mixing chamber 56. Thus, another beneficial feature of the present invention is that valving rod 54 is preferably adapted to direct cleaning solvent 100 against the interior surface 59 of discharge port 66 when the valving rod is in the closed position. As shown most clearly in FIG. 21, this may be accomplished by placing outlet ports 86 at the distal end 116 of valving rod 54 such that the outlet ports 86 are adjacent to the interior surface 59 when the valving rod is in the closed position. This configuration allows the solvent to flow directly against the problematic surface 59 and more effectively prevent foam build-up on such surface, as compared with previous dispensers.

Thus, instead of deluging the valving rod and discharge port with a continuous, downwardly-flowing stream of solvent as taught in Sperry '848, the present Sperry et al. invention strategically directs far smaller quantities of solvent at the precise areas where such solvent is most effectively employed, namely, directly against the interior surface of the discharge port. This feature of the invention is described in originally-

filed claims 3 and 12, and has now been incorporated into independent claims 1 and 10.

Accordingly, claims 1 and 10 now specify that the outlet ports of the valving rod direct cleaning solvent “radially outwards ... and against said interior surface of said discharge port when said valving rod is in said closed position....” In this manner, “at least a portion of any fluid product or derivatives thereof that may be in adherence with said interior surface of said discharge port,” i.e., from the previous dispensing cycle, is removed when the valving rod is in the closed/non-dispensing position so that the dispenser is ready for the next dispensing cycle. Such a feature as now recited in claims 1 and 10 is neither taught nor suggested in Sperry '848.

At page 5 of the Office Action, it is asserted that Sperry '848 discloses that the valving rod is adapted to direct cleaning solvent against the interior surface of the discharge port when the valving rod is in the closed position, and a citation to col. 5, lines 42-53 is provided. In response, Applicant points out that the Sperry '848 dispenser does not direct solvent “radially outwards ... and against” the interior surface of the discharge port (opening 153) as claimed. Instead, as noted above, Sperry '848 teaches that solvent contacts opening 153 by flowing downwards out of the chemical injection ports 234 and 236 (col. 37, lines 26-45). This is far different, and far less effective, than precisely directing the solvent radially outwards and directly against the surface where the solvent is needed most, i.e., the interior surface of the discharge port, as now claimed.

Accordingly, claims 1 and 10, including claims 2, 4-9, 11, and 13-19 that depend therefrom, are submitted to be patentably distinct from, i.e., both novel and non-obvious over, Sperry '848. Withdrawal of the rejection, therefore, is respectfully requested.

Claim Rejections - 35 USC §103 based on Sperry '847

Claims 1-3 and 10-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sperry '847 (U.S. Pat. No. 5,255,847) in view of Schmitter (U.S. Pat. No. 5,129,580).

Sperry discloses a cartridge 12 that includes a sintered tip 20 having an opening 35 through which a fluid product (foamable composition) passes, with a valving rod moving within the dispenser to control the flow of the foamable composition from the dispenser (col. 3, lines 12-49). Foamable composition is cleaned from the surface of the sintered tip 20 by forcing an air-solvent mixture through the tip (col. 3, line 50 through col. 4, line 3; see also col. 1, lines 49-56). The solvent and air is introduced into the tip 20 via an opening 32 in housing 13 (col. 3, lines 36-37).

As indicated in the Office Action, Sperry does not disclose the claimed valving rod having a central bore, at least one inlet for receiving a cleaning solvent, and one or more outlet ports capable of directing the cleaning solvent radially outwards against the interior surface of the housing.

Schmitter is therefore cited for its teaching of a device to spray "disperse systems," which includes a plunger 1 with an intake duct 3 for the disperse system. The plunger further includes two output ducts 4, which branch off toward the inside wall of the spray head 5 at the discharge end of the device (col. 3, lines 7-27). The disperse system (i.e., "fluid product"), exits the spray device at (discharge) nozzle 7. Schmitter teaches that the device is cleaned by controlling the plunger 1 "so that, after stopping of the feeding of the disperse system, it is pressed into the hole type nozzle [7], thereby at the same time cleaning and securely sealing the hole type nozzle." (Col. 4, lines 23-26.) Specifically, the tip of the plunger cleans the discharge nozzle 7 by being pressed into the

nozzle by force of spring 8, "by which particles possibly clogging the hole type nozzle are pressed out through the latter." (Col. 4, lines 9-15; also col. 3, lines 44-49.)

In their previous response, Applicants pointed out that while Schmitter teaches a dispenser in which a fluid product is sprayed through a valving-rod-type device (plunger 1), it does not teach means for directing a cleaning solvent through the valving rod to remove fluid product from the inside of the dispenser, wherein the fluid product flows through the dispenser via a separate flow-path as claimed. Thus, Applicants contended that if one were to modify Sperry in accordance with the teachings of Schmitter, the resultant dispenser would not have a flow-path within the valving rod for a cleaning solvent, with a separate flow-path outside of the valving rod for a fluid product as claimed.

In response, the Examiner cites *Ex parte Masham*, 2 USPQ2d 1647 (PTOBPAI 1987), for the proposition that the manner in which a claimed apparatus is intended to be used does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations (2/25/2003 Office Action, paragraph 9).

Applicants point out, however, that the issue decided in *Ex parte Masham* was whether a single reference anticipated claims directed to an apparatus that was structurally similar to an apparatus disclosed in the reference but used in a different manner. *Ex parte Masham* is therefore distinguishable from the issues presented in the instant rejection for at least the following reasons.

First, the PTOBPAI in *Masham* based its decision on the fact that the cited reference disclosed all of the structural limitations of the claimed apparatus. *Id.* at 1648. In contrast, Schmitter does not disclose all of the elements in Applicants' claims. In particular, Schmitter does not disclose a dispenser having separate flow-paths for at least two

different fluids as claimed. That is, irrespective of the manner in which the different fluids are employed in the claimed dispenser, the claims nevertheless define and require at least two separate fluid-flow-paths. Schmitter, on the other hand, discloses only a single fluid-flow-path.

Secondly, while the rejection in *Masham* was based on anticipation by a single reference under 35 USC §102(b), the instant rejection is based on obviousness under 35 USC §103(a). While the disclosure of all claimed structural limitations in a single reference was sufficient to sustain the rejection under 35 USC §102(b) in *Masham*, a different standard applies to rejections under 35 USC §103(a). Specifically, the law requires that both the claimed invention and the prior art references be considered as a whole under 35 USC §103. See, e.g., MPEP §2141.02 (August 2001).

Accordingly, since the Examiner seeks to combine the Sperry '847 and Schmitter references in such a way as to establish a *prima facie* case of obviousness against the presently-claimed invention, not only must the structural features of the claimed and disclosed dispensers be considered, but the manner in which those dispensers operate must also be considered. Ignoring the manner of operation of the dispensers would constitute a failure to consider the claimed invention and references as a whole.

Furthermore, based on a proper consideration of both the claimed and disclosed dispensers as a whole, three essential criteria must be met in order to establish a *prima facie* case of obviousness, as summarized in MPEP §2143 (August 2001). First, there must be some suggestion or motivation in the prior art to combine the teachings of the references. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach all the claim limitations. An important proviso is that the suggestion to make the claimed combination must be

found in the prior art, and not in the applicant's application. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991).

In the present case, Sperry '847 teaches that a foamable composition (i.e., the 'fluid product') is cleaned from the surface 36 of the sintered tip 20 by forcing an air-solvent mixture through the tip, thereby forming a frothing mixture over the surface 36 to provide enhanced cleaning action (see, e.g., col. 3, lines 45-57). In this manner, the tip is cleaned so that fluid product can flow through the opening 35 therein during the next foam-dispensing cycle.

Schmitter, on the other hand, teaches that the disperse system (i.e., the 'fluid product') is cleaned from the nozzle 7 by pressing the tip of the 'valving rod' (plunger 1) into the nozzle 7 to push out any particles that may be clogging the nozzle. Schmitter also teaches that the fluid product flows through the plunger/valving rod 1 and exits the dispenser via nozzle 7.

In the Office Action, it is asserted that it would have been obvious to modify the Sperry '847 valving rod "by applying the teaching from [S]chmitter to provide a valving rod with bore and outlet ports for delivering cleaning solution to the tip of the fluid dispenser."

(2/25/2003 Office Action, paragraph 3.) However, Schmitter does not teach any means for conveying a cleaning solution through the valving rod to be delivered to the tip of the dispenser. Instead, it is the fluid product that is conveyed through the valving rod. Moreover, Schmitter does not teach or suggest the use of a separate flow-path within the dispenser through which a second fluid may flow in order to remove residual fluid product from the nozzle 7. Instead, such removal is accomplished by physically pushing residual fluid product out of the nozzle 7 via the tip of plunger 1 as it returns to its 'closed position.' Accordingly, Applicants respectfully submit that Schmitter would not

have motivated one having ordinary skill in the art to provide a valving rod with a bore and outlet ports for delivering cleaning solution to the tip of a fluid dispenser because Schmitter is simply devoid of any such teaching. Thus, Schmitter does not supply any motivation to make the proposed combination as required by *MPEP 2143*.

Furthermore, Sperry '847 already teaches a means to deliver solvent to the tip of the dispenser, i.e., via sintered tip 20 and opening 32 in housing 13, and specifically touts the benefits and advantages of such means. Neither Sperry '847 nor Schmitter provide any suggestion for replacing the Sperry '847 solvent delivery means with a different solvent delivery means, and doing so would go against the express teachings of Sperry '847. Thus, Sperry '847 not only fails to support the combination as proposed in the Office Action, but also indicates that any such combination would be inconsistent with the teachings of that reference.

Accordingly, the rejection does not meet the criteria of *MPEP 2143* because neither Sperry '847 nor Schmitter provides any suggestion or motivation to combine the teachings of those references in the manner proposed in the Office Action. Moreover, any such combination of Sperry with Schmitter would not meet all of the claim limitations because neither reference teaches a means for sending a cleaning solvent through the bore of a valving rod and directing the solvent against the interior of a dispenser as claimed. Applicants, therefore, submit that a *prima facie* case of obviousness has not been established.

Finally, as described above, claims 1 and 10 have been amended to specify that the outlet ports of the valving rod direct cleaning solvent "radially outwards ... and against said interior surface of said discharge port when said valving rod is in said closed position...." This additional feature of the claims is neither taught nor suggested in Sperry '847 or Schmitter. The Sperry '847 dispenser sends the solvent/air mixture

through the sintered tip and inwards towards the opening 35. Although Schmitter's plunger directs the disperse system "radially to tangentially or axially," such fluid product "strikes the inside wall of spray head (5) configured as hollow space (2)." (Column 3, lines 24-27; FIG. 1.) However, the plunger does not direct the disperse system radially outwards and directly against the interior surface of the discharge nozzle 7. Instead, the disperse system strikes the inside wall of the spray head, which is inboard of the discharge nozzle 7. Further, the disperse system only flows from the plunger when the plunger is in the open position, and not when it is in the closed position. Thus, not only does Schmitter fail to disclose any means for conveying a cleaning solution through the plunger to be delivered to the tip of the dispenser, it also does not disclose any means to direct a fluid of any kind against the interior surface of the discharge nozzle when the plunger is in the closed position. Accordingly, claims 1 and 10, including the claims that depend therefrom, are submitted to be patentable over the combination of Sperry '847 and Schmitter for this additional reason.

Claims 10-15 and 17-20 stand rejected under 35 USC §103(a) as being unpatentable over Sperry '847 in view of Sperry '848. Sperry '847 is said to disclose the invention, except for the dispenser, while Sperry '848 is said to disclose the claimed dispenser.

As noted above, claim 10 has been amended to specify that the outlet ports of the valving rod direct cleaning solvent "radially outwards ... and against said interior surface of said discharge port when said valving rod is in said closed position...." As discussed at length above, such a feature is neither taught nor suggested in either Sperry '848 or Sperry '847. Accordingly, claim 10 and the claims that depend therefrom are patentable over the combination of Sperry '847 and Sperry '848

because such combination does not teach or suggest all of the elements of claim 10.

Claim 20 is an independent claim, and recites a dispenser having a “conduit providing fluid communication between said internal reservoir and said discharge port to deliver cleaning solvent to said discharge port, said conduit positioned externally of said internal chamber.” Sperry ‘847 does not disclose an internal reservoir from which cleaning solvent is delivered to the discharge port. Instead, Sperry ‘847 teaches that solvent is delivered to the sintered tip/discharge port by a submersible pump 40 via tube 45, with the pump being submerged in an external supply of solvent. Col. 4, lines 4-18; also FIG. 5. While the valving rod 16 may be retracted to leave a fluid flow path between fluid product openings 14 and 15 and the terminal end of the housing where the fluid product (foam precursors) exits the housing at sintered tip 20 (col. 3, lines 17-20), this is not a fluid-flow-path between any internal solvent reservoir within the Sperry ‘847 dispenser and the discharge port thereof. Thus, Sperry ‘847 also fails to disclose a conduit for delivering solvent from a reservoir within the dispenser to the discharge port.

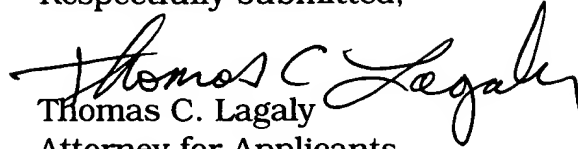
While Sperry ‘848 discloses an initial solvent supply area 312, solvent from this area is delivered internally within the dispenser and not via a conduit positioned externally of the dispenser as recited in claim 20.

Accordingly, claim 20 is patentable over the combination of Sperry ‘847 and Sperry ‘848 because such combination does not teach or suggest all of the elements of claim 20.

For all of the foregoing reasons, Applicants submit that all of the claims as currently presented are patentably distinct from the references

of record and are, therefore, in condition for allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas C. Lagaly", written in a cursive style.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In th specification:

Claims 1 and 10 have been amended as follows:

1. (Amended) A fluid dispenser, comprising:

a. a housing ~~defining~~ having an internal chamber ~~bounded by an interior surface within said housing~~, said housing comprising:

(1) an inlet for receiving a fluid product into said housing and being in fluid communication with said internal chamber, and

(2) a discharge port through which fluid product may exit said housing, said discharge port having an interior surface and being in fluid communication with said internal chamber; and

b. a valving rod disposed in said housing and being movable within said internal chamber between an open position, in which fluid product may flow through said internal chamber and exit said housing via said discharge port, and a closed position, in which fluid product is substantially prevented from flowing through said internal chamber, said valving rod comprising:

(1) a central bore,

(2) at least one inlet for receiving a cleaning solvent, said inlet being in fluid communication with said bore, and

(3) one or more outlet ports in fluid communication with said bore, said outlet ports being capable of directing cleaning solvent radially outwards from said bore and against said interior surface of said discharge port when said valving rod is in said closed position ~~bounding said internal chamber~~ to facilitate the removal of at least a portion of any fluid product or derivatives thereof that may be in adherence with said interior surface of said discharge port.

10. (Amended) An apparatus for dispensing fluid into flexible containers and enclosing the fluid within the containers, comprising:

a. a mechanism that conveys a web of film along a predetermined path of travel, said film web comprising two juxtaposed plies of plastic film that define a partially-formed flexible container;

b. a dispenser through which a fluid product may flow in predetermined amounts, said dispenser positioned adjacent the travel path of the film web such that said dispenser can dispense fluid product into the partially-formed flexible container, said dispenser comprising:

(1) a housing ~~defining~~ having an internal chamber ~~bounded by an interior surface within said housing~~, said housing comprising:

(a) an inlet for receiving a fluid product into said housing and being in fluid communication with said internal chamber, and

(b) a discharge port through which fluid product may exit said housing, said discharge port having an interior surface and being in fluid communication with said internal chamber; and

(2) a valving rod disposed in said housing and being movable within said internal chamber between an open position, in which fluid product may flow through said internal chamber and exit said housing via said discharge port, and a closed position, in which fluid product is substantially prevented from flowing through said internal chamber, said valving rod comprising

(a) a central bore,

(b) at least one inlet for receiving a cleaning solvent, said inlet being in fluid communication with said bore, and

(c) one or more outlet ports in fluid communication with said bore, said outlet ports being capable of directing cleaning solvent radially outwards from said bore and against said interior surface of said discharge port when said valving rod is in said closed position ~~bounding said internal chamber~~ to facilitate the removal of at least a portion of any fluid product or derivatives thereof that may be in adherence with said interior surface of said discharge port;

and

c. one or more devices for sealing the plies of plastic film together to complete the partially-formed container, thereby enclosing the fluid product therein.

In addition, claims 3 and 12 have been canceled.